What is claimed is:

1. A method, comprising:

calibrating a remote sensor interface by determining one or more calibration delay times for the remote sensor interface with a processor;

sending a first signal from the processor to the remote sensor interface;

receiving a second signal at the processor from the remote sensor interface in response to said sending;

timing a delay between said sending and said receiving with the processor; and

determining an output level of a sensor operatively coupled to the remote sensor interface as a function of the delay and the calibration delay times.

2. The method of claim 1, further comprising providing the remote sensor interface, wherein the remote sensor interface includes a voltage-controlled oscillator operatively coupled to the sensor and a counter operatively coupled to the voltage controlled oscillator.

3. The method of claim 2, further comprising:

generating pulses with the voltage controlled oscillator at a frequency proportional to the output level of the sensor;

counting a specified number of pulses from the voltage controlled oscillator with the counter; and

sending the second signal to the processor in response to said counting.

4. The method of claim 1, further comprising providing the processor, wherein said processor includes an internal clock.

5. The method of claim 1, wherein said calibrating includes:

sending a calibration signal from the processor to the remote sensor interface;

receiving a calibration response signal from the remote sensor interface in response to said sending the calibration signal; and

timing one of the calibration delay times between said sending the calibration value and said receiving the calibration response signal, wherein the one calibration delay time is proportional a specified calibration reading at the sensor interface.

6. The method of claim 1, wherein the calibration delay times include a high calibration delay time.

7. The method of claim 1, wherein:

said calibration delay times include a low calibration delay time that corresponds to a low calibration sensor reading from the remote sensor interface and a high calibration delay time that corresponds to a high calibration sensor reading from the remote sensor interface; and

said determining the output level includes normalizing the delay to a normalized value between a lower limit that corresponds to the low calibration delay time and an upper limit that corresponds to the high calibration delay time.

8. The method of claim 7, wherein the lower limit is zero and the upper limit is one.

9. The method of claim 1, further comprising displaying an equipment diagnosis based at least in part on the output level of the sensor.

10. The method of claim 1, further comprising:

retrofitting the sensor to a heating, ventilation and air conditioning unit;

wherein the output level of the sensor corresponds to a temperature reading from the unit; and

diagnosing with the processor an error in the unit based on the output level of the sensor.

11. The method of claim 1, wherein the first signal is a strobe signal and the second signal is an interrupt signal.

12. A system, comprising:

a sensor device operable to sense a reading from a machine;

a processor operatively coupled to said sensor device;

said processor being operable to send a first signal to said sensor device and to receive a second signal from said sensor device;

said sensor device being operable to delay sending said second signal in proportion to said reading;

said processor including an internal clock operable to time a time delay between sending the first signal and receiving the second signal; and

said processor being operable to determine the reading from said sensor device based on said time delay.

13. The system of claim 12, wherein said sensor device includes:

a sensor operable to generate an output voltage proportional to said reading;

a voltage-controlled oscillator operatively coupled to said sensor, said voltage-controlled oscillator being operable to generate a signal at a frequency proportional to said output voltage of said sensor; and

a counter operatively coupled to said voltage-controlled oscillator and said processor, said counter being operable to delay sending said second signal in response to said first signal by a time period proportional to said frequency of said signal from said voltage-controlled oscillator.

14. The system of claim 13, wherein:

said signal generated by said voltage-controlled oscillator includes pulses; and

said counter is operable to send said second signal in response to counting a specified number of pulses from said voltage-controlled oscillator.

15. The system of claim 13, wherein said sensor includes a thermistor.

16. The system of claim 12, further comprising said machine, wherein said machine includes a heating, ventilation and air conditioning unit.

17. The system of claim 12, wherein said processor is operable to diagnose errors in said machine based in part on said reading.

18. The system of claim 12, wherein said processor is operable to periodically calibrate said sensor device.

19. A system, comprising:

a heating, ventilation and air conditioning unit, said unit including a controller for controlling operation of said unit;

a diagnostic device operatively coupled to said unit, said diagnostic device being operable to monitor status of said unit, said diagnostic device including

a processor operatively coupled to said controller,

a clock operatively coupled to said processor,

one or more remote sensors attached to said unit, wherein said remote sensors are operable to generate output voltages proportional to readings from said unit,

one or more multiplexers operatively coupled to said sensors and said processor to select one of said sensors to read,

a voltage-controlled oscillator operatively coupled to said multiplexers, said voltage-controlled oscillator being operable to generate pulses at frequencies proportional to said output voltages from said sensors,

a counter operatively coupled to said voltage-controlled oscillator and said processor,

said processor being operable to send one or more first signals to said counter,

said counter being operable to send one or more second signals to said processor in response to said first signals after counting a predefined number of pulses from said voltage-controlled oscillator,

said timer being operable to time delay times between sending said first signals and receiving said second signals at said processor, and

said processor being operable to determine said readings from said sensor devices based on said delay times; and

wherein said diagnostic device is operable to determine said unit status of said unit based on said readings from said sensors and signals from said controller.

20. The system of claim 19, wherein said sensors include a return air temperature sensor, a mixed air temperature sensor and an outdoor air temperature sensor.

21. The system of claim 19, wherein said diagnostic device is operatively coupled to said controller to receive heating, cooling and control valve operation information from said controller.

22. The system of claim 19, further comprising:

a network; and

a remote monitoring facility operatively coupled to said diagnostic device through said network to receive said unit status from said diagnostic device.

23. A method, comprising:

determining occupancy of a building with a processor, wherein the building has an air treatment system with a fan;

determining operational status of the fan with the processor;

calculating an outdoor air fraction of the system with the processor;

determining validity of the outdoor air fraction with the processor;

determining outdoor air fraction status with the processor by comparing the outdoor air fraction to a required outdoor air fraction for the building;

determining current mode status with the processor by comparing the outdoor air fraction with current mode of operation of the system;

determining unit status of the system with the processor based at least on the occupancy of the building, the operational status of the fan, the validity of the outdoor air fraction, the outdoor air fraction status, and the current mode status; and

providing output based at least in part on the unit status.

24. The method of claim 23, wherein:

said determining operational status of the fan includes receiving a fan signal from a fan sensor operatively coupled the processor;

said determining the occupancy of the building includes determining validity of the fan signal; and

said determining the unit status is based on the validity of the fan signal.

25. The method of claim 23, wherein said calculating the outdoor air fraction includes:

measuring a return air temperature in the system with a return air temperature sensor operatively coupled to the processor;

measuring an outdoor air temperature in the system with an outdoor air temperature sensor operatively coupled to the processor;

measuring a mixed air temperature in the system with a mixed air temperature sensor operatively coupled to the processor; and

wherein the outdoor air fraction is based on the difference between the mixed air temperature and the return air temperature divided by the difference between the outdoor air temperature and the return air temperature.

26. The method of claim 25, wherein:

said determining the unit status includes validity checking the return air temperature, the mixed air temperature and the outdoor air temperature; and

the unit status is based on said validity checking.

27. The method of claim 23, wherein:

said determining the outdoor air fraction status includes establishing that the outdoor air fraction is less than the required outdoor air fraction; and

said determining the unit status establishing the unit status as low outdoor air supply.

28. The method of claim 23, wherein said providing the output includes displaying the unit status in a status page at a remote monitoring facility.

29. A system comprising:

means for calibrating a remote sensor interface by determining one or more calibration delay times for said remote sensor interface;

means for sending a first signal to said remote sensor interface;

means for receiving a second signal from said remote sensor interface in response to said first signal;

means for timing a delay between said first and second signals, wherein said delay corresponds to a sensor reading; and

means for determining said sensor reading based on said delay and said calibration delay times.

30. A system, comprising:

means for determining occupancy of a building, wherein said building has an air treatment system with a fan;

means for determining operational status of said fan;

means for calculating an outdoor air fraction of said system;

means for determining validity of said outdoor air fraction;

means for determining outdoor air fraction status by comparing said outdoor air fraction to a required outdoor air fraction for said building;

means for determining current mode status by comparing said outdoor air fraction with current mode of operation of said system; and

means for determining unit status of said system based at least on said occupancy of said building, said operational status of said fan, said validity of said outdoor air fraction, said outdoor air fraction status, and said current mode status.